

ABSTRACT OF THE INVENTION

A ridge waveguide filter having a slow-wave structure. The ridge waveguide has an elongate hollow tube formed of a conductive sidewall. At least a first part of the conductive sidewall periodically is recessed along an elongate direction of the hollow tube, such that a plurality of ridges is formed to project in the hollow tube. The sidewall is fabricated from metallic materials. The hollow tube includes a rectangular hollow tube or a circular hollow tube, for example. The ridges are equally spaced from and parallel with each other. Each of the ridges has a bottom surface parallel with a second part of the conductive sidewall. The second part of the conductive sidewall is opposite to the first part of the conductive sidewall.